

INVENTOR SEARCH RESULTS:

? ds

Set	Items	Description
S1	44389	AU=(KIM, D? OR KIM D?)
S2	297276	COMPRESSOR? ? OR (PRESSURIZ? OR VAPORIZ? OR PUMP? OR COMPRESSION? OR COMPRESSING OR SQUEEZ?) (31) (DEVICE? ? OR APPARATUS? OR COMPONENT? ? OR ELEMENT? ?)
S3	587	S1 AND S2
S4	75495	IC=F04B?
S5	86	S3 AND S4
S6	167167	REFRIGERAT? OR FRIGIDAIRE? ?
S7	13	S5 AND S6
S8	13	RD (unique items)

? show files

File 350:Derwent WPIX 1963-2010/UD=201068
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File 35:Dissertation Abs Online 1861-2010/Sep
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8/25/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX
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0018991212

WPI Acc no: 2009-H76798/200930

**Linear compressor for refrigerator, has motor and rear covers
which are fixedly welded together, and installed at front and
back sides of supporter, for supporting front and rear main
springs, respectively**

Patent Assignee: LG ELECTRONICS INC (GLDS); HONG S (HONG-I);
HYEON S (HYEO-I); KIM D (KIMD-I); KIM J (KIMJ-I); PARK J (PARK-
I); YANG Y (YANG-I)

Inventor: HONG S; HONG S J; HYEON S; HYEON S Y; **KIM D; KIM D H;**
KIM J; KIM J H; PARK J; PARK J S; YANG Y; YANG Y S; HONG S, KR;
HYEON S, KR; **KIM D, KR;** KIM J, KR; PARK J, KR; YANG Y S, KR

Patent Family (6 patents, 123 countries)

Patent Number	Kind	Date	Update	Type
WO 2009054635	A2	20090430	200930	B
KR 2009041728	A	20090429	200932	E
WO 2009054635	A3	20100429	201029	E
EP 2201248	A2	20100630	201043	E
CN 101828035	A	20100908	201064	E
US 20100242721	A1	20100930	201064	E

Local Applications (no., kind, date): WO 2008KR5995 A 20081010;

KR 2007107383 A 20071024; WO 2008KR5995 A 20081010; EP 2008841692 A 20081010; WO 2008KR5995 A 20081010; CN 200880112252 A 20081010; WO 2008KR5995 A 20081010; WO 2008KR5995 A 20081010; US 2010739172 A 20100422

Priority Applications (no., kind, date): KR 2007107383 A 20071024
Alerting Abstract WO A2

NOVELTY - The linear **compressor** (100) has front and rear main springs (820,840) whose respective ends are supported at front and rear surfaces of the supporter (320), respectively. Motor and rear covers (540,560) which are fixedly welded together are installed at the front and back sides of the supporter, for supporting front and rear main springs, respectively.

USE - Linear **compressor** for **refrigerator** and other domestic electric appliances.

ADVANTAGE - A linear **compressor** which reduces mechanical loss can be easily provided, while improving productivity.

DESCRIPTION OF DRAWINGS - The drawing shows the schematic view of the linear **compressor**.

100 Linear **compressor**

320 Supporter

540 Motor cover

560 Rear cover

820 Front main spring

840 Rear main spring

Dialog eLink: [Order File History](#)

8/25/2 (Item 2 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0018567731 *Drawing available*

WPI Acc no: 2009-A66129/200903

Linear compressor, has piston reciprocated in cylinder to compress refrigerant in compression chamber, one bearing installed at cylinder to support piston, and another bearing installed at compressor body to support piston

Patent Assignee: LG ELECTRONICS INC (GLDS)

Inventor: **KIM** D H; **KIM** S G

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
KR 848915	B1	20080729	200903	B

Local Applications (no., kind, date): KR 200719057 A 20070226

Priority Applications (no., kind, date): KR 200719057 A 20070226

Alerting Abstract KR B1

NOVELTY - The **compressor** has a piston (116) reciprocated in a cylinder (111) to compress refrigerant in a compression chamber. A bearing (160) is installed at the cylinder to support the

piston. A bearing (170) is installed at a **compressor** body to support the piston. A connection device is formed with a connection pipe to connect an oil outlet port (166) with an oil inlet port (164) of the bearings. An oil feeding groove (162) is formed in a contact surface of the bearing (160) and the piston, and an oil feeding groove (172) is formed in a contact surface of the bearing (170) and the piston.

USE - Linear **compressor**.

ADVANTAGE - The **compressor** prevents the system from being broken by easily supplying the oil to the bearings, effectively absorbs the power and the moment acting on the piston, improves the conduct of the piston, decreases the friction loss of the piston, improves the efficiency, and improves the reliability of the system.

DESCRIPTION OF DRAWINGS - The drawing shows a cross sectional view of a linear **compressor**.

111 Cylinder

116 Piston

160, 170 Bearings

162, 172 Oil feeding grooves

164 Oil inlet port

166 Oil outlet port

Dialog eLink: [Order File History](#)

8/25/3 (Item 3 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0018567729 Drawing available

WPI Acc no: 2009-A66127/200903

Linear compressor, has piston reciprocating in cylinder to compress refrigerant in compression chamber, and bearing installed at cylinder to support piston, and position correction member inserted between another bearing and compressor body

Patent Assignee: LG ELECTRONICS INC (GLDS)

Inventor: **KIM D H**; **KIM S G**

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
KR 848913	B1	20080729	200903	B

Local Applications (no., kind, date): KR 200719055 A 20070226

Priority Applications (no., kind, date): KR 200719055 A 20070226

Alerting Abstract KR B1

NOVELTY - The **compressor** has a piston (116) reciprocating in a cylinder (111) to compress refrigerant in a compression chamber. A bearing (160) is installed at the cylinder to support the piston. A bearing (170) is installed at a **compressor** body to support the piston. The bearing (170) is fixed to the **compressor** body by adhesive. A position correction member is inserted

between the bearing (170) and the **compressor** body. The bearing (170) is fixed by a fastening device. The cylinder is equipped in a linear compression part (110).

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for manufacturing a linear **compressor**.

USE - Linear **compressor**.

ADVANTAGE - The **compressor** absorbs the force and moment applied to the piston efficiently by installing two bearings for supporting the piston at both sides of the piston. The **compressor** decreases the friction loss. The compression efficiency of the **compressor** is improved. The **compressor** ensures the reliability of the system. The productivity of the **compressor** is improved.

DESCRIPTION OF DRAWINGS - The drawing shows a cross-sectional view of a linear **compressor**.

110 Linear compression part

111 Cylinder

116 Piston

117 Discharge valve assembly

160, 170 Bearings

Dialog eLink: [Order](#) [File](#) [History](#)

8/25/4 (Item 4 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0018167103 Drawing available

WPI Acc no: 2008-K87432/200864

Compressor has lubricating passage that enables high pressure and high temperature refrigerant gas remaining within gap to flow to lower surface of thrust bearing via suction passage

Patent Assignee: HALLA CLIMATE CONTROL CORP (HACL)

Inventor: AHN Y; KIM D; LEE S

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
KR 2008024607	A	20080319	200864	B

Local Applications (no., kind, date): KR 200688922 A 20060914

Priority Applications (no., kind, date): KR 200688922 A 20060914

Alerting Abstract KR A

NOVELTY - The **compressor** has a driving shaft (150) with a lubricating passage (154) formed at the longitudinal direction of the forming location of a part of a swash plate (160) in order to be connected with the lower surface of a thrust bearing (180). The lubricating passage enables the high pressure and high temperature refrigerant gas remaining within a gap (G) to flow to the lower surface of the thrust bearing via suction passage (132). The gap is formed between a valve unit (190) and a cylinder bore.

USE - **Compressor**.

ADVANTAGE - Improves performance of the **compressor** since lubrication of the thrust bearing is secured.

DESCRIPTION OF DRAWINGS - The drawing shows the enlarged sectional view of the principal part of the **compressor**.

132 Suction passage

150 Driving shaft

154 Lubricating passage

160 Swash plate

180 Thrust bearing

190 Valve unit

G Gap

Dialog eLink: [Order File History](#)

8/25/5 (Item 5 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0016885476 *Drawing available*

WPI Acc no: 2007-600540/200757

XRAM Acc no: C2007-215571

XRPX Acc No: N2007-465531

Fixing device for a compressor of e.g. air conditioner, refrigerator has auxiliary fixing units that prevent external vibration from being transferred to the compressor

Patent Assignee: SAMSUNG ELECTRONICS CO LTD (SMSU)

Inventor: HONG H J; **KIM D Y**; MOON J M

Patent Family (3 patents, 3 countries)				
Patent Number	Kind	Date	Update	Type
US 20070148013	A1	20070628	200757	B
CN 1991168	A	20070704	200781	E
KR 2007069773	A	20070703	200805	E

Local Applications (no., kind, date): US 2006507481 A 20060822;

CN 200610153835 A 20060913; KR 2005132241 A 20051228

Priority Applications (no., kind, date): KR 2005132241 A 20051228

Alerting Abstract US A1

NOVELTY - The main fixing units (20) which include a bolt (24) and a dustproof rubber (26) prevent an internal vibration generated from the operation of the **compressor** (15). Auxiliary fixing units also includes a fixing bolt and a dustproof cap prevent external vibration from being transferred to the **compressor**.

USE - For installation between a **compressor** (claimed) of e.g. air conditioner, **refrigerator** and a casing to prevent vibration of the **compressor**.

ADVANTAGE - Enables effective prevention of vibration of the **compressor** due to external vibration.

DESCRIPTION OF DRAWINGS - The figure shows an exploded perspective view of the fixing device.

10 Casing
 15 **Compressor**
 20 Main fixing units
 24 Bolt
 26 Dustproof rubber

Dialog eLink: [Order File History](#)

8/25/6 (Item 6 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0016309082 *Drawing available*

WPI Acc no: 2007-025249/200703

Related WPI Acc No: 2009-H71662

Oil separator for an air conditioner sets one end of the refrigerant inflow pipe to face the inner surface of the side wall of the housing in the tangential direction

Patent Assignee: SAMSUNG ELECTRONICS CO LTD (SMSU)

Inventor: JOO J M; KANG J H; **KIM D W**; LEE B I; LEE B L; LENCHINE V; NA S U

Patent Family (7 patents, 39 countries)

Patent Number	Kind	Date	Update	Type
US 20060280622	A1	20061214	200703	B
EP 1731856	A2	20061213	200703	E
CN 1877230	A	20061213	200726	E
KR 2006128433	A	20061214	200742	E
KR 2006132203	A	20061221	200742	E
KR 715043	B1	20070509	200833	E
KR 745419	B1	20070802	200838	E

Local Applications (no., kind, date): US 2006436764 A 20060519; EP 200611305 A 20060531; CN 200610091247 A 20060608; KR 200549883 A 20050610; KR 200552418 A 20050617; KR 200552418 A 20050617; KR 200549883 A 20050610

Priority Applications (no., kind, date): KR 200549883 A 20050610; KR 200552418 A 20050617

Alerting Abstract US A1

NOVELTY - A refrigerant discharge pipe (2) discharges refrigerant separated from the mixture to the outside of the oil separator.

An oil discharge pipe returns oil separated from the mixture to the **compressor**. One end of the refrigerant inflow pipe faces the inner surface of the side wall (12) of the housing (1) in the tangential direction.

USE - For use in an air conditioner.

ADVANTAGE - Improved gas discharge pipe structure to increase oil separation efficiency and reduce generation of noise and vibration.

DESCRIPTION OF DRAWINGS - The figure shows a longitudinal sectional view of the oil separator for an air conditioner.

- 1 Housing
- 2 Refrigerant discharge pipe
- 11 Upper cap
- 11a Connection portion
- 12 Side wall

Dialog eLink: [Order File History](#)

8/25/7 (Item 7 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0015571146 Drawing available

WPI Acc no: 2006-135307/200614

XRPX Acc No: N2006-117322

Reciprocating compressor for e.g. refrigerator, air conditioner, includes resonance springs which elastically support connection part of piston and rotor, inducing piston resonance

Patent Assignee: KINSEISHA KK (GLDS); LG ELECTRONICS INC (GLDS)

Inventor: KIM D; KIM D H

Patent Family (6 patents, 4 countries)

Patent Number	Kind	Date	Update	Type
US 20060024181	A1	20060202	200614	B
JP 2006037962	A	20060209	200614	E
CN 1727677	A	20060201	200639	E
KR 2006010608	A	20060202	200660	E
KR 641112	B1	20061102	200758	E
CN 100567733	C	20091209	201009	E

Local Applications (no., kind, date): US 2005187971 A 20050725;
JP 2005217062 A 20050727; CN 200510088418 A 20050728; KR
200459374 A 20040728; KR 200459374 A 20040728; CN 200510088418 A
20050728

Priority Applications (no., kind, date): KR 200459374 A 20040728

Alerting Abstract US A1

NOVELTY - The **compressor** includes a piston connected to a rotor and reciprocated within a cylinder (120), to facilitate suction and compression of refrigerant gas. Resonance springs elastically support the connection part of the piston and the rotor, inducing piston resonance. The rotor has a permanent magnet set between an inner stator (110) and an outer stator.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a reciprocating **compressor** manufacturing method.

USE - For e.g. **refrigerator**, air conditioner.

ADVANTAGE - Simplifies manufacture of reciprocating **compressor**. Suppresses abrasion of piston and cylinder, thus improving operation reliability of **compressor**.

DESCRIPTION OF DRAWINGS - The figure shows the cut-isometric view of the cylinder and the inner stator.

110 Inner stator

120 Cylinder

Dialog eLink: [Order File History](#)

8/25/8 (Item 8 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0015019070 *Drawing available*

WPI Acc no: 2005-367033/200537

XRPX Acc No: N2005-297328

Operation control method for controlling operation of compressor in refrigerator, involves varying cooling capacity of compressor installed in refrigerator by controlling rotation direction of compressor

Patent Assignee: LG ELECTRONICS INC (GLDS); KIM D (KIMD-I)

Inventor: **KIM D**; KIM Y; **KIM D H**; KIM Y K

Patent Family (10 patents, 103 countries)				
Patent Number	Kind	Date	Update	Type
WO 2005047700	A1	20050526	200537	B
AU 2003274777	A1	20040606	200553	E
AU 2003274777	A8	20050606	200565	E
EP 1687536	A1	20060809	200652	E
MX 2006004888	A1	20060801	200701	E
US 20070068181	A1	20070329	200725	E
JP 2007520680	W	20070726	200751	E
RU 2329440	C2	20080720	200853	E
JP 4331725	B2	20090916	200961	E
AU 2003274777	B2	20100603	201048	E

Local Applications (no., kind, date): WO 2003KR2296 A 20031029; AU 2003274777 A 20031029; WO 2003KR2296 A 20031029; AU 2003274777 A 20031029; WO 2003KR2296 A 20031029; EP 2003759029 A 20031029; WO 2003KR2296 A 20031029; WO 2003KR2296 A 20031029 ; MX 20064888 A 20060428; WO 2003KR2296 A 20031029; US 2006577429 A 20060427; WO 2003KR2296 A 20031029; JP 2005510582 A 20031029; WO 2003KR2296 A 20031029; RU 2006118356 A 20031029; WO 2003KR2296 A 20031029 ; JP 2005510582 A 20031029; AU 2003274777 A 20031029; WO 2003KR2296 A 20031029

Priority Applications (no., kind, date): WO 2003KR2296 A 20031029
Alerting Abstract WO A1

NOVELTY - The rotation direction of the **compressor** installed in the **refrigerator**, is configured so as to be controllable. The cooling capacity of the **compressor** is thereby varied by

controlling the rotation direction of the **compressor**.

DESCRIPTION - An INDEPENDENT CLAIM is also included for **compressor** operation control equipment.

USE - For controlling the operation of a **compressor** installed in a **refrigerator**.

ADVANTAGE - The **compressor** is made operable at an optimum efficiency, by varying the cooling capacity. The power consumption of the **refrigerator** is reducible, while enhancing the **refrigeration** efficiency. The cooling temperature of the **refrigerator** is precisely controllable.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart adopted for controlling the **compressor** of a **refrigerator**.

Dialog eLink: [Order File History](#)

8/25/9 (Item 9 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0014043937 *Drawing available*

WPI Acc no: 2004-226163/200421

IRPX Acc No: N2004-178790

Reciprocating compressor, for refrigerant gas, has suction valve fixing member fastened to front surface of piston and defining predetermined space to allow back and forth movement of suction valve at piston front surface

Patent Assignee: KINSEISHA KK (GLDS); LG ELECTRONICS INC (GLDS)

Inventor: KIM B; KIM B J; **KIM D**; **KIM D H**; KIM H; KIM H S; PARK J;

PARK J S; KIM P

Patent Family (9 patents, 6 countries)

Patent Number	Kind	Date	Update	Type
US 20040047751	A1	20040311	200421	B
DE 10302065	A1	20040318	200421	E
JP 2004100685	A	20040402	200424	E
CN 1480649	A	20040310	200437	E
KR 2004022320	A	20040312	200444	E
BR 200300264	A	20040803	200454	E
KR 486575	B	20050503	200657	E
CN 1278039	C	20061004	200716	E
DE 10302065	B4	20090730	200950	E

Local Applications (no., kind, date): US 2003642814 A 20030819; DE 10302065 A 20030121; JP 200351047 A 20030227; CN 2003102514 A 20030209; KR 200253586 A 20020905; BR 2003264 A 20030128; KR 200253586 A 20020905; CN 2003102514 A 20030209; DE 10302065 A 20030121

Priority Applications (no., kind, date): KR 200253586 A 20020905

Alerting Abstract US A1

NOVELTY - A suction valve fixing member (144), fastened to the front surface of the piston (142), defines a predetermined space to allow back and forth movement of a suction valve (143) at the piston front surface.

USE - Reciprocating **compressor** for compressing low temperature, low pressure refrigerant gas discharged from evaporator, and discharging gas at high temperature and high pressure.

ADVANTAGE - Improves gas compression performance.

DESCRIPTION OF DRAWINGS - The figure is a partially cross sectional view of the discharge valve assembly of a reciprocating **compressor**.

142Piston

143Suction valve

144Suction valve fixing member

FSuction path

HConnection hole

Dialog eLink: [Order File History](#)

8/25/10 (Item 10 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0014043936 *Drawing available*

WPI Acc no: 2004-226162/200421

XRFX Acc No: N2004-178789

Reciprocating compressor, for refrigerant gas, has adhesion preventing groove formed at suction valve contact region at front end surface of piston to minimize adhesion of valve to front end surface due to oil

Patent Assignee: KINSEISHA KK (GLDS); LG ELECTRONICS INC (GLDS)

Inventor: KIM B; KIM B J; **KIM D; KIM D H**; KIM H; KIM H S; PARK J; PARK J S; KIM P; LEE H

Patent Family (7 patents, 6 countries)				
Patent Number	Kind	Date	Update	Type
US 20040047750	A1	20040311	200421	B
DE 10312355	A1	20040318	200421	E
JP 2004100687	A	20040402	200424	E
CN 1480648	A	20040310	200437	E
KR 2004022787	A	20040318	200445	E
BR 200300317	A	20040908	200462	E
CN 1295435	C	20070117	200740	E

Local Applications (no., kind, date): US 2003634765 A 20030806;
 DE 10312355 A 20030320; JP 200373246 A 20030318; CN 2003120017 A
 20030310; KR 200254054 A 20020907; BR 2003317 A 20030226; CN
 2003120017 A 20030310

Priority Applications (no., kind, date): KR 200254054 A 20020907
Alerting Abstract US A1

NOVELTY - An adhesion preventing groove (146a), formed at the suction valve contact region at the front end surface (146) of a piston (142), reduces contact area between the piston and a suction valve (143) to minimize adhesion of valve to front end surface due to oil.

USE - Reciprocating **compressor** for compressing low temperature, low pressure refrigerant gas discharged from evaporator, and discharging gas at high temperature and high pressure.

ADVANTAGE - Ensures smooth operation of suction valve, since contact area between valve and piston is reduced. Reduces noise by damping operation.

DESCRIPTION OF DRAWINGS - The figure is a disassembled perspective view of the engagement of a piston and a suction valve.

142Piston

143Suction valve

146Front end surface

146aAdhesion preventing groove

F Suction path

Dialog eLink: [Order File History](#)

8/25/11 (Item 11 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0014021470 *Drawing available*

WPI Acc no: 2004-203180/200419

XRPX Acc No: N2004-161649

Reciprocating compressor for refrigerator, has discharging valve assembly with cover combined with side of cylinder and valve located at end of cylinder to adjust gas discharge in compression spaces of cylinder

Patent Assignee: KINSEISHA KK (GLDS); LG ELECTRONICS INC (GLDS)

Inventor: KIM B; KIM B J; **KIM D**; **KIM D H**; KIM H; KIM H S; PARK J;

PARK J S

Patent Family (8 patents, 6 countries)

Patent Number	Kind	Date	Update	Type
US 20040037725	A1	20040226	200419	B
DE 10301779	A1	20040304	200419	E
JP 2004076721	A	20040311	200419	E
CN 1477309	A	20040225	200436	E
KR 2004017446	A	20040227	200439	E
BR 200300261	A	20040803	200454	E
CN 1238636	C	20060125	200655	E
KR 486566	B	20050503	200657	E

Local Applications (no., kind, date): US 2003348978 A 20030123;
DE 10301779 A 20030118; JP 200399047 A 20030402; CN 2003101686 A
20030114; KR 200249514 A 20020821; BR 2003261 A 20030128; CN
2003101686 A 20030114; KR 200249514 A 20020821

Priority Applications (no., kind, date): KR 200249514 A 20020821

Alerting Abstract US A1

NOVELTY - The **compressor** (140) has a piston to perform a reciprocating movement using a force of motor. A piston is inserted into a cylinder (141) to form compression spaces, and an inclined discharging surface is formed at an end surface. A discharging valve assembly (170) has a cover combined with a side of the cylinder. A valve located at an end of the cylinder adjusts the gas discharge, and a spring elastically supports the valve.

USE - Used for compressing refrigerant gas under condition of low temperature and pressure.

ADVANTAGE - The **compressor** improves the compression performance by maintaining opening and closing performance even though the discharging valve is deformed by using the valve for a long time. The discharging valve and the cylinder are linearly contacted, thereby reducing the suction noise.

DESCRIPTION OF DRAWINGS - The drawing shows a partially cross-sectional view of an operation state of a discharging valve assembly.

21Front frame

140Compressor

141Cylinder

170Discharging valve assembly

171Discharging cover

Dialog eLink: [Order File History](#)

8/25/12 (Item 12 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0013623330 *Drawing available*

WPI Acc no: 2003-718839/200368

Device for preventing refrigerant overheat for opposed reciprocating compressor

Patent Assignee: LG ELECTRONICS INC (GLDS)

Inventor: KIM B J; **KIM D H**; KIM H S; PARK J S

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
KR 2003045549	A	20030611	200368	B
KR 446766	B	20040901	200505	E

Local Applications (no., kind, date): KR 200176303 A 20011204; KR 200176303 A 20011204

Priority Applications (no., kind, date): KR 200176303 A 20011204
Alerting Abstract KR A

NOVELTY - A device is provided to prevent increase of specific volume of refrigerant and achieve improved compression efficiency by permitting the refrigerant to be heated by the heat generated from the reciprocating motor and the frictional heat generated from the piston and the cylinder.

DESCRIPTION - A device comprises a plurality of reciprocating motors mounted at both inner ends of a casing(10) and which generate driving force in a linear manner; a cylinder(37) fixed between the reciprocating motors; a plurality of pistons(31a,31b) coupled into the cylinder in such a manner that the pistons are slidable and suck and compress the refrigerant by the linear reciprocating motion transferred movers(24a,24b) of the reciprocating motors; and a heat insulation unit(15) arranged at the inner surface of the suction channel penetrating through the side wall of the cylinder.

Dialog eLink: [Order File History](#)

8/25/13 (Item 13 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0012848083 *Drawing available*

WPI Acc no: 2002-706609/200276

XRPX Acc No: N2002-557166

Reciprocating compressor, for refrigerator, has driving motor and front frame on both sides of reference frame and piston for sucking, compressing and discharging refrigerant gas

Patent Assignee: KIM B J (KIMB-I); KIM D H (KIMD-I); KIM H S (KIMH-I); KINSEISHA KK (GLDS); LG ELECTRONICS CO LTD (GLDS); LG ELECTRONICS INC (GLDS); PARK J S (PARK-I)

Inventor: KIM B; KIM B J; **KIM D H**; KIM H; KIM H S; PARK J S

Patent Family (8 patents, 4 countries)				
Patent Number	Kind	Date	Update	Type
US 20020119058	A1	20020829	200276	B
JP 2002266755	A	20020918	200277	E
CN 1372077	A	20021002	200307	E
KR 2002069302	A	20020830	200309	E
KR 382927	B	20030509	200359	E
US 6746217	B2	20040608	200437	E
CN 1161544	C	20040811	200612	E
JP 3787094	B2	20060621	200643	E

Local Applications (no., kind, date): US 200241497 A 20020110; JP 20027426 A 20020116; CN 2002102439 A 20020118; KR 20019489 A 20010224; KR 20019489 A 20010224; US 200241497 A 20020110; CN

2002102439 A 20020118; JP 20027426 A 20020116
 Priority Applications (no., kind, date): KR 20019489 A 20010224;
 US 200241497 A 20020110

Alerting Abstract US A1

NOVELTY - Driving motor (50) is mounted at one side of a reference frame (40) for generating a linear reciprocating driving force. Front frame (70) is coupled to another side of the reference frame. Piston (100) is inserted in the cylinder (80) in the cylinder insertion hole of a front frame for sucking, compressing and discharging a refrigerant gas.

USE - Reciprocating compressor for refrigerator.

ADVANTAGE - Provides a stable driving mechanism without any driving imbalance, reduces frictional loss and the loss of driving force, reduces noise and achieves stable and reliable operation. Simplifies structure and improves assembly precision of the components, reduces accumulated tolerance and improves assembling productivity.

DESCRIPTION OF DRAWINGS - The figure shows a sectional view through the reciprocating compressor.

40 Reference frame

50 Driving motor

70 Front frame

80 Cylinder

100 Piston

NPL BIBLIO AND FULLTEXT RESULTS:

? ds

Set	Items	Description
S1	421532	COMPRESSOR? ? OR (PRESSURIZ? OR VAPORIZ? OR PUMP? OR COMPRESSION? OR COMPRESSING OR SQUEEZ?) (3N) (DEVICE? ? OR APPARATUS? OR COMPONENT? ? OR ELEMENT? ?)
S2	58060912	CONTROL? OR REGULAT? OR MAINTAIN? OR RESTRICT? OR GOVERN? OR ADJUST? OR MONITOR? OR MANIPULAT? OR DICTAT? OR MANAG? OR DETERMIN?
S3	27646262	OPTIMAL? OR OPTIMIZ? OR VARY OR VARYING OR VARIE? ? OR ALTER? OR CHANG?
S4	13297683	ROTAT? OR TURN? OR SPIN? OR MOVEMENT? ? OR REVOLV? OR MOVE()AROUND? OR CIRCL?
S5	9607200	CLOCKWISE OR COUNTERCLOCKWISE OR FORWARD? OR REVERS?
S6	26492491	TEMPERATUR? OR COOL? OR WARM? OR COLD? OR THERMO? OR HOT? OR HEAT? OR CALIBRAT? OR DEGREE? ? OR FREEZ?
S7	110473	S1(S)S2
S8	2652881	S2(10N)S4:S5
S9	5825	S7(S)S8
S10	1811401	S3(10N)S6
S11	9705	S1(S)S10
S12	163	S9(10N)S11
S13	592638	REFRIGERAT? OR REFRIGERANT? OR FRIGIDAIRE? ?
S14	36	S12 AND S13
S15	21	RD (unique items)
S16	2193410	(TEMPERATUR? OR COOL? OR WARM? OR COLD? OR THERMO? OR HOT? OR HEAT? OR CALIBRAT? OR DEGREE? ? OR FREEZ?) (10N) (DECREAS? OR LOWER? OR DECLIN? OR REDUC? OR DROP?)
S17	205	S9(S)S16
S18	73	S17(S) ((TEMPERATUR? OR COOL? OR WARM? OR COLD? OR THERMO?

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OR HOT? OR HEAT? OR CALIBRAT? OR DEGREE? ? OR FREEZE?)(10H)
(INCREAS? OR ESCALAT? OR HIGH? OR RAIS? OR RISE? ? OR RISING))
S19      19      S18 AND S13
S20      16      RD (unique items)

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? show files

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File 2:INSPEC 1898-2010/Oct W3
      (c) 2010 The IET
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      (c) 2010 ProQuest Info&Learning
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File 370:Science 1996-1999/Jul W3
      (c) 1999 AAAS
File 103:Energy SciTec 1974-2010/Sep B2
      (c) 2010 Contains copyrighted material
File 9:Business & Industry(R) Jul/1994-2010/Oct 27
      (c) 2010 Gale/Cengage
File 16:Gale Group PROMT(R) 1990-2010/Oct 26
      (c) 2010 Gale/Cengage
File 160:Gale Group PROMT(R) 1972-1989
      (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2010/Oct 27
      (c) 2010 Gale/Cengage
File 621:Gale Group New Prod.Annou.(R) 1985-2010/Sep 06
      (c) 2010 Gale/Cengage
File 47:Gale Group Magazine DB(TM) 1959-2010/Oct 01
      (c) 2010 Gale/Cengage
File 15:ABI/Inform(R) 1971-2010/Oct 27
      (c) 2010 ProQuest Info&Learning
File 264:DIALOG Defense Newsletters 1989-2010/Oct 26
      (c) 2010 Dialog

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15/3,K//2 (Item 1 from file: 23)
 DIALOG(R)File 23: CSA Technology Research Database
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0012350356 IP Accession No: 200909-71-1227514; 200909-61-1251895; 20091220849; A09-99-1703858

Auger-type ice-making machine

Kaga, Shinichi; Hirano, Akihiko; Kondou, Naoshi , USA
Publisher Url: <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=/netaht ml/PTO/search-adv.htm&r=1&p=1&f=G&l=50&d=PTXT&S1=75 36867.PN.&OS=pn/7536867&RS=PN/7536867>

Document Type: Patent

Record Type: Abstract

Language: English

File Segment: Metadex; Mechanical & Transportation Engineering Abstracts; ANTE: Abstracts in New Technologies and Engineering; Aerospace & High Technology

Abstract:

...motor (25) for driving the ice-scraping auger (23). An freezing apparatus (10) has a **compressor** (11) driven by a motor (16), circulating **refrigerant** discharged from the **compressor** (11) through a condenser (12), a dryer (13), a constant pressure expansion valve (14), and... ..the outlet of the evaporator (15) there is provided a temperature sensor (41) for sensing **refrigerant** temperature. A controller (42) controls the rotational speed of the motor (16) through an inverter circuit (43) such that the sensed **refrigerant** temperature is equal to a specified **refrigerant** temperature, allowing the freezing apparatus (10) to keep ice-making performance thereof. As a result...

Descriptors: Cylinders; Augers; Freezing; **Refrigerants**; Motors; Evaporation; Compressors; Paper machines; Water temperature; Circulating; Inverters; Temperature sensors; Driving; Outlets; Discharge; Scraping...

15/3,K/5 (Item 4 from file: 23)
 DIALOG(R)File 23: CSA Technology Research Database
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0009979838 IP Accession No: 200808-71-1213406; 200808-61-1313938; 20081172532; A08-99-1275159

Refrigerator control and system

Ty, Henry , USA

Publisher Url: <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=/netaht ml/PTO/search-adv.htm&r=1&p=1&f=G&l=50&d=PTXT&S1=42 76754.PN.&OS=pn/4276754&>

RS=PN/4276754

Document Type: Patent

Record Type: Abstract

Language: English

File Segment: Metadex; Mechanical & Transportation Engineering Abstracts; ANTE: Abstracts in New Technologies and Engineering; Aerospace & High Technology

Refrigerator control and system

Abstract:

...control regulates air flow between the freezer and food compartments of a side-by-side **refrigerator** and cooperates with a freezer thermostat to form a system which **regulates** operation of the **refrigerator compressor** in an energy efficient manner. A spiral coil spring of thermostat metal material has its inner end secured to a damper shaft to bias damper **movement** between positions opening and closing a **control** housing orifice in response to **changes in temperature**. A cylinder fitted around and secured to the outer end of the spring coil **rotates** to **adjust** the spring bias for selectively **changing** the **temperature** setting of the **control**. A **control** arm has a split sleeve at one end releasably clamped to the cylinder at a... ..when required and then to close the orifice for minimizing the frequency and duration of **compressor** operations initiated by the freezer thermostat.

Descriptors: Cylinders; Control systems; Springs; Freezers; **Refrigerators**; Bias; Foods; Thermostats; Compartments; Coiling; Springs (elastic); Dampers; Housing; Calibration; Compressors; Air flow; Energy of...

Identifiers:

15/3,K/6 (Item 5 from file: 23)

DIALOG(R)File 23: CSA Technology Research Database

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0009749961 IP Accession No: 200808-71-1192030; 200808-61-1292294; 20081151119; A08-99-1253961

Dual capacity compressor with reversible motor and controls arrangement therefor

Sisk, Francis J , USA

Publisher Url: [http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=/netaht ml/PTO/search-](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=/netaht ml/PTO/search-adv.htm&r=1&p=1&f=G&l=50&d=PTXT&S1=42 48053.PN.&OS=pn/4248053&RS=PN/4248053)

[adv.htm&r=1&p=1&f=G&l=50&d=PTXT&S1=42 48053.PN.&OS=pn/4248053&RS=PN/4248053](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=/netaht ml/PTO/search-adv.htm&r=1&p=1&f=G&l=50&d=PTXT&S1=42 48053.PN.&OS=pn/4248053&RS=PN/4248053)

Document Type: Patent

Record Type: Abstract

Language: English

File Segment: Metadex; Mechanical & Transportation Engineering Abstracts; ANTE: Abstracts in New Technologies and Engineering;

Aerospace & High Technology

Abstract:

...the invention, that is, using a reversible motor compressor in a heat pump in a **refrigerating** or air conditioning system, it is desirable to insure a delay during **reversal** of the direction of **compressor** operation. A **control** arrangement is provided in which the **control** system **controls** the direction of motor operation or **compressor** capacity in accordance with temperature conditions, the system including **control** means for effecting operation in a low capacity direction or condition, or alternatively in a ...
 ...another set, respectively, of temperature conditions and with timer means delaying a restart of the **compressor** motor for at least a predetermined time in response to a condition of the control means operative to initiate a change in the operating direction or condition of the **compressor** when it restarts. The operation of the system in the different capacities is also subject to **control** in accordance with **changes** in ambient **temperature**.

Descriptors: Compressors; Control equipment; Motors; Positioning; Timing devices; Delay; Inventions; Ambient temperature; Control systems; Air conditioning; **Refrigerating**; Heat pumps

PATENT SEARCH RESULTS:

? ds

Set	Items	Description
S1	397461	COMPRESSOR? ? OR (PRESSURIZ? OR VAPORIZ? OR PUMP? OR COMPRESSION? OR COMPRESSING OR SQUEEZ?)(3N)(DEVICE? ? OR APPARATUS? OR COMPONENT? ? OR ELEMENT? ?)
S2	10513482	CONTROL? OR REGULAT? OR MAINTAIN? OR RESTRICT? OR GOVERN? OR ADJUST? OR MONITOR? OR MANIPULAT? OR DICTAT? OR MANAG? OR DETERMIN?
S3	3791172	OPTIMAL? OR OPTIMIZ? OR VARY OR VARYING OR VARIE? ? OR ALTER? OR CHANG?
S4	4974510	ROTAT? OR TURN? OR SPIN? OR MOVEMENT? ? OR REVOLV? OR MOVE ()AROUND? OR CIRCL?
S5	1108895	CLOCKWISE OR COUNTERCLOCKWISE OR FORWARD? OR REVERS?
S6	6807602	TEMPERATUR? OR COOL? OR WARM? OR COLD? OR THERMO? OR HOT? OR HEAT? OR CALIBRAT? OR DEGREE? ? OR FREEZ?
S7	1967984	SENSOR? ? OR (SENSING OR SENSE? OR DETECT? OR SIGNAL?)(3N)(INSTRUMENT? ? OR DEVICE? ? OR APPARATUS?)
S8	8452084	DECREAS? OR LOWER? OR DECLIN? OR REDUC? OR DROP?
S9	9153911	INCREAS? OR ESCALAT? OR HIGH? OR RAIS? OR RISE? ? OR RISING
S10	153472	S1(S)S2
S11	31028	S1(10N)S4
S12	34259	S1(10N)S4:S5
S13	12713	S10(S)S11
S14	357208	S3(10N)S6
S15	705618	S7(S)S8:S9
S16	523	S13(15N)S14
S17	87	S16(S)S15
S18	46	S17 AND (REFRIGERA? OR FRIGID? OR FREEZER? ?)
S19	964753	S4(10N)(DIRECTION? OR OPERATION? OR FUNCTION?)
S20	391397	S2(S)S19
S21	2992	S1(15N)S20

S22 189 S21(S)S14
 S23 100 S22 AND (REFRIGERA? OR FRIGID? OR FREEZER? ?)

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File 350:Derwent WPIX 1963-2010/UD=201068
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 File 347:JAPIO Dec 1976-2010/Jul(Updated 101027)
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23/25/17 (Item 17 from file: 350)
 DIALOG(R)File 350: Derwent WPIX
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0019084305 *Drawing available*
 WPI Acc no: 2009-J61280/200935
Operation-control method for air conditioner involves determining minimum value of heating operation time during defrost drive based on output of change in compressor rotation speed
 Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU)
 Inventor: MAEKAWA H

Patent Family (1 patents, 1 countries)				
Patent Number	Kind	Date	Update	Type
JP 2009109165	A	20090521	200935	B

Local Applications (no., kind, date): JP 2007284988 A 20071101
 Priority Applications (no., kind, date): JP 2007284988 A 20071101
Alerting Abstract JP A

NOVELTY - The operation control method involves using a microcomputer (12) to change the rotation speed of a compressor (13) at time of defrost according to detected **compressor temperature** and outdoor **heat exchanger temperature**. Based on the **change in the compressor rotation speed**, the microcomputer **determines** the minimum value of the heating **operation** time during defrost driving. The heating operation is employed after defrost drive.

USE - Operation-control method of air conditioner.
 ADVANTAGE - Improves the comfort under the user's heating operation by performing the defrost operation at high compressor rotation speed.

DESCRIPTION OF DRAWINGS - The drawing is a block diagram of the operation-control method of the air conditioner. (Drawing includes non-English language text).

- 11 Outdoor heat exchanger temperature sensor
- 12 Microcomputer
- 12e Heating minimum operation-time determination output unit
- 12f Compressor rotation speed change unit
- 13 Compressor

23/25/25 (Item 25 from file: 350)
 DIALOG(R)File 350: Derwent WPIX
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0018650785 Drawing available

WPI Acc no: 2009-EI3665/200909

Refrigerator has control unit that controls damper to temporarily close cold air path which is connected with refrigerating chamber, when detected temperature of freezer and rotational speed of compressor exceed predetermined value

Patent Assignee: HITACHI KUCHO SYSTEM KK (HIAP)

Inventor: ARAKAWA N; ISHIWATARI H

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
JP 2009014320	A	20090122	200909	B

Local Applications (no., kind, date): JP 2007179631 A 20070709

Priority Applications (no., kind, date): JP 2007179631 A 20070709

Alerting Abstract JP A

NOVELTY - The **refrigerator** has a damper (54) for opening and closing a cold air path (44c), when the cold air is supplied from a cooler (49) into a **refrigerating** chamber (44) using a compressor. A temperature sensor (61) detects the temperature of the **refrigerating** chamber and a **freezer** (42). A control unit (57) controls damper to close the cold air path temporarily, when the detected temperature of the **freezer** and the rotational speed of the compressor exceed a predetermined value.

USE - **Refrigerator**.

ADVANTAGE - The energy consumption of the **refrigerator** is reduced efficiently, by suppressing the increase in temperature of the **freezer** and rotational speed of compressor in the specific manner. The **refrigerator** can maintain the freshness of the stored foodstuffs for a long time.

DESCRIPTION OF DRAWINGS - The drawing shows a sectional view of the **refrigerator**.

42 **Freezer**

44 **Refrigerating** chamber

44c Cold air path

49 Cooler

54 Damper

57 Control unit

61 Temperature sensor

23/25/46 (Item 46 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0014027008 Drawing available

WPI Acc no: 2004-208929/200420

XRPX Acc No: N2004-165985

Refrigerating-cycle apparatus used for air-conditioner, has compression functional force device that adjusts capability by

varying rotation speed of compressor based on output of evaporation temperature detector

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU)

Inventor: FUNAKURA S; KUSUMARU Y; NISHIWAKI F; OKAZA N; SATO N

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
JP 2004061061	A	20040226	200420	B

Local Applications (no., kind, date): JP 2002223358 A 20020731

Priority Applications (no., kind, date): JP 2002223358 A 20020731

Alerting Abstract JP A

NOVELTY - A control device (32) operates pressure-reduction device (24) based on output of discharge temperature detector (31). A high voltage controller (36) operates pressure-reduction device, based on output of temperature detector (33) and adjusts high pressure. A control device (43) varies rotation speed of a compressor (21) according to output of evaporation temperature detector (41) and adjusts capability.

DESCRIPTION - An INDEPENDENT CLAIM is also included for operating method of **refrigerating** cycle apparatus.

USE - Used for air-conditioning machine, car air-conditioner, water heater.

ADVANTAGE - Provides capability demanded by the user efficiently and reliably equipping compression functional force-control device, thus preventing freezing of heat absorption device.

DESCRIPTION OF DRAWINGS - The figure shows outline block diagram of **refrigerating** cycle apparatus.

21compressor

24pressure-reduction device

31discharge temperature detector

32pressure-reduction device discharge temperature control device

33outlet temperature detector

36pressure-reduction device optimal high voltage controller

41evaporation temperature detector

43compression functional force-control device

23/3,K/72 (Item 5 from file: 347)

DIALOG(R)File 347: JAPIO

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08849171 **Image available**

CONTROL DEVICE OF REFRIGERATOR

Pub. No.: 2006-242531 [JP 2006242531 A]

Published: September 14, 2006 (20060914)

Inventor: TANAKA MASAYUKI

Applicant: MATSUSHITA ELECTRIC IND CO LTD

Application No.: 2005-061992 [JP 200561992]

Filed: March 07, 2005 (20050307)

****Image available****

CONTROL DEVICE OF REFRIGERATOR

ABSTRACT

...the problem wherein a compressor performs continuous operation, due to lengthening cooling time of a **refrigerating** chamber, since a **compressor** rotating speed is started once from a minimum rotating speed, for **determining** a temperature difference for detecting the **refrigerating** chamber temperature after detecting the freezing chamber temperature, when switching a selector valve to the **refrigerating** chamber from a **freezing** chamber, though the rotating speed is **changed** by a **temperature** difference between the **freezing** chamber **temperature** and the preset temperature.

SOLUTION: This control device has a freezing chamber temperature detecting means 13, a freezing chamber temperature setting means 14, a freezing chamber temperature difference arithmetic operation means 15, a **rotating** speed correcting **determining** means 22, a **compressor** rotating speed **determining** means 20, a **compressor** driving means 21, a **refrigerating** chamber temperature detecting means 16, a **refrigerating** chamber temperature setting means 17, a **refrigerating** chamber temperature difference arithmetic operation means 18, and a selector valve driving means 19. Since the rotating speed correcting **determining** means 22 corrects the rotating speed after a specific time passes by **maintaining** the **compressor** rotating speed when switching the selector valve to the **refrigerating** chamber from the freezing chamber, operation time can be shortened by quickly lowering the temperature... Di01

23/3,K/73 (Item 6 from file: 347)

DIALOG(R)File 347: JAPIO

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08807422 ****Image available****

REFRIGERATOR

Pub. No.: 2006-200782 [JP 2006200782 A]

Published: August 03, 2006 (20060803)

Inventor: OOSHIMA ATSUHIRO

Applicant: MATSUSHITA ELECTRIC IND CO LTD

Application No.: 2005-011213 [JP 200511213]

Filed: January 19, 2005 (20050119)

****Image available****

REFRIGERATOR

ABSTRACT

...at a proper temperature even when an ambient temperature is low, with respect to a **refrigerator** where the operation of a **compressor** is **controlled** on the basis of **temperature change** of a **refrigerating** compartment.

SOLUTION: This **refrigerator** comprises the **refrigerating** compartment 1 and the freezing compartment 2, the operation and stop of the compressor 7... ..on the basis of a temperature

detected by a temperature sensor 3 mounted in the **refrigerating** compartment 1, and rotational frequency of the fan motor 6 is switched to **rotational** frequency lower than normal one, when an **operation** factor of the **compressor** calculated from lapse times of an operation timer 11 starting totalization at every start of...
...the compressor 7, becomes less than a prescribed ratio. As cold air volume to the **refrigerating** compartment 1 is reduced, an operating time of the compressor 7 is elongated, and the... Di01

23/3,K/74 (Item 7 from file: 347)

DIALOG(R)File 347: JAPIO

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08759975 **Image available**

CONTROL DEVICE FOR REFRIGERATOR

Pub. No.: 2006-153335 [JP 2006153335 A]

Published: June 15, 2006 (20060615)

Inventor: TANAKA MASAYUKI

Applicant: MATSUSHITA ELECTRIC IND CO LTD

Application No.: 2004-342224 [JP 2004342224]

Filed: November 26, 2004 (20041126)

Image available

CONTROL DEVICE FOR REFRIGERATOR

ABSTRACT

PROBLEM TO BE SOLVED: To provide a control device for a **refrigerator** capable of preventing a freezing compartment from being excessively cooled, and inhibiting the abrasion caused by continuous operation of a **compressor**.

SOLUTION: This **control** device for the **refrigerator** comprises a freezing compartment temperature detecting means 13, a freezing compartment temperature setting means 14, a freezing compartment temperature difference operating means 15, a **compressor** rotating speed correction **determining** means 23, a **compressor** rotating speed deciding means 20, a **compressor** driving means 21, a **refrigerating** compartment temperature detecting means 16, a **refrigerating** compartment temperature setting means 17, a **refrigerating** compartment temperature difference operating means 18, and a switch valve driving means 19, and further comprises a **refrigeration-off** setting detecting means 22 and the **compressor** rotating speed correction **determining** means 23. When the **refrigeration-off** is set by the **refrigeration-off** setting detecting means 22, the rise of **compressor** rotating speed is inhibited by the **compressor** rotating speed correction **determining** means 23, and a temperature for **determining** the rise of **compressor** rotating speed is raised, thus the abrasion can be inhibited by shortening the continuous **operation** of the **compressor**, as the **compressor** rotating speed is not raised and the supercooling of the freezing compartment can be prevented, and the **cooling** performance suitable for a **cooling** system can be **optimally** achieved.